

REMARKS/ARGUMENTS

Claims 1-26 were originally filed in the present application. In response to a Restriction Requirement made in the pending Office Action, Applicants previously elected to prosecute Group I, claims 16-26, in the present application, and has withdrawn Group II, claims 1-15, from consideration at this time; these claims have also been canceled from the present application. In a prior Amendment, the Applicants amended claim 16, and by the present Amendment, the Applicants have again amended claim 16. Accordingly, claims 16-26, as herein amended, remain pending in the present Application.

I. REJECTIONS UNDER 35 U.S.C. §102

The Examiner has again rejected claims 16-18 and 20-26 under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Published Patent Application No. 2004/0036164 to Koike, *et al.* The Applicants respectfully disagree with the Examiner's allegation because Koike does not disclose each and every element of independent claim 16. Specifically, Koike does not disclose a semiconductor package device having an IC chip comprising, among other things, "a final thickness less than a thickness of the package substrate on which it is mounted, wherein the final thickness is selected so that the chip distorts substantially in accordance with distortion of the package substrate occurring during temperature changes such that a shape of the chip substantially conforms to a shape of the package substrate despite the mismatch in their respective coefficients of thermal expansion."

While Koike may disclose that the IC chip may have a thickness less than a thickness of the package substrate, Koike does not disclose precisely selecting that thickness so that the chip distorts in accordance with the package substrate during temperature changes so that the chip conforms to the same shape as the package substrate.

The Examiner has cited paragraphs 0049 and 0065 of Koike for teaching selecting a thickness of the IC chip, and then asserts that the “chip inherently distorts, at least to some small degree, with the substrate when temperature changes.” While the Applicants do not necessarily agree with this evaluation of the structure in Koike, the Applicants have amended independent claim 16 to more specifically recite that which was already clearly included and intended in claim 16, when read in conjunction with the specification of the present application (thus, no further search is required and these amendments should be entered). Therefore, even if the chip in Koike “distorts with the package substrate to some small degree,” Koike does not disclose precisely selecting a final thickness of the chip so that it distorts in accordance with the substrate such that the shape of the chip substantially conforms to the shape of the substrate.

The Applicants respectfully assert that the mere chance that the chip may distort to some small degree with the package substrate does not equate to a disclosure that the final thickness of the chip is selected so that it distorts in accordance with the substrate such that the shape of the chip substantially conforms to the shape of the substrate, despite these two components having different coefficients of thermal expansion. Accordingly, Koike does not disclose all of the elements of independent claim 16, as well as its dependent claims, and the Applicants respectfully request that the Examiner withdraw these rejections.

II. REJECTIONS UNDER 35 U.S.C. §103

The Examiner has also again rejected claims 16-18 and 20-26 under 35 U.S.C. §103(a) as allegedly obvious over Koike. The Applicants also respectfully disagree with this assertion of the Examiner because Koike also does not teach or suggest all the element of independent claim 16, as herein amended. As discussed above, Koike does

not teach a semiconductor package device having an IC chip comprising “a final thickness less than a thickness of the package substrate, wherein the final thickness is selected so that the chip distorts substantially in accordance with distortion of the package substrate occurring during temperature changes such that a shape of the chip substantially conforms to a shape of the package substrate despite the mismatch in their respective coefficients of thermal expansion.”

Moreover, as discussed in detail in the prior Amendment, Koike does not suggest this missing element by merely teaching that the IC chip may end up having a different thickness than its package substrate, or that the chip Koike’s package may distort at least to some small degree with the substrate. In fact, Koike makes no mention of potential differences in coefficients of thermal expansion between these components. Furthermore, there is no recognition of the problems that can occur when temperature changes lead to distortion or either or both of these components during operation. Indeed, claims 16 now recites that the final thickness of the chip is selected so that it distorts in accordance with the substrate such that the shape of the chip substantially conforms to the shape of the substrate, despite these two components have differing coefficients of thermal expansion. Accordingly, the Applicants respectfully assert that independent claim 16, as herein amended, is not obvious in view of Koike. For at least these reasons, the Applicants respectfully request that these rejections also be withdrawn.

Finally, the Examiner has rejected dependent claim 19 under 35 U.S.C. §103(a) as allegedly obvious over Koike in view of U.S. Patent No. 6,559,525 to Huang. As discussed above, Koike does not teach or suggest all of the elements of amended independent claim 16, from which claim 19 depends. Huang does not provide this missing element, and is only relied upon for showing the use of a heat spreader on the IC

chip. Thus, the Applicants also respectfully request that the Examiner withdraw this rejection as well.

III. CONCLUSION

The Applicants respectfully submit that pending claims 16-26 are in condition for allowance, and request a Notice of Allowability for the pending claims. The Examiner is invited to contact the undersigned Attorney of Record if such would expedite the prosecution of the present Application three-month response deadline is set to expire on August 29, 2006. As a result, no extension fee is believed due with this filing. However, if a fee is determined to be due, the Applicants hereby authorize the Commissioner to charge the necessary amount to Deposit Account No. 13-0480, referencing the Attorney Docket Number specified herein

Respectfully submitted,

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